

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



a41.9  
R 315 a  
No. 3



Growth Through Agricultural Progress

ARS-45-3  
May 1962

United States Department of Agriculture  
Agricultural Research Service

COMMON DISEASES OF DOMESTIC RABBITS 1/

by Karl W. Hagen, Jr. and Everett E. Lund 2/

<u>DISEASE AND SYMPTOMS</u>	<u>CAUSE</u>	<u>TREATMENT AND CONTROL <u>3/</u></u>
SKIN:		
<u>Ear Mange or Canker--</u>  Shaking of head, scratching of ears. Brown scaly crusts at base of inner ear.	Ear mites  ( <u>Psoroptes cuniculi</u> and <u>Chorioptes cuniculi</u> )	Remove scales and crusts from inner ear and swab with Tr. 1 or 2. Treat all animals near or adjacent to infected animals. Treat all newly introduced animals.
<u>Skin Mange--</u> Reddened, scaly skin, intense itching and scratching, some loss of fur.	Mites: ( <u>Sarcoptes scabiei</u> , <u>Notoedres cati</u> ; also occasionally <u>Psoroptes cuniculi</u> , <u>Chorioptes cuniculi</u> and <u>Demodex cuniculi</u> )	Dust animals with Tr. 3 or any other small animal dusting powder for external parasites.

- 1/ This publication supersedes Common Diseases of Domestic Rabbits, by Everett E. Lund, U. S. Dept. Agr., Agr. Res. Service, AH Correspondence Aid No. 23, revised August 1959.
- 2/ Bacteriologist and Parasitologist, Animal Disease Eradication Division, Agricultural Research Service, U. S. Dept. of Agriculture, at Rabbit Experiment Station, Fontana, Calif.; now Parasitologist at Beltsville, Parasitological Laboratory, Animal Disease and Parasite Research Division, Beltsville, Md.
- 3/ See section on Treatment and Medication at end of this publication. Tr. refers to the treatment number given in this section.

## DISEASE AND SYMPTOMS

## CAUSE

## TREATMENT AND CONTROL

Favus or Ringworm--Circular patches of scaly skin with red, elevated crusts. Usually starts on head. Fur may break off or fall out.

Fungus (Trichophyton, and Microsporum)

Individual animals may be treated with Tr. 4 or 5. Dusting sulfur added to all nest boxes may help prevent spread to young. Infection can be spread to man.

Sore Hocks--Bruised, infected or abscessed areas on hocks. May be found on front feet in severe cases. Animal shifts weight to front feet to help hocks.

Bruised or chafed areas become infected--caused by wet floors, irritation from wire or nervous "stompers."

Small lesions may be helped by placing animal on lath platform or on ground. Advanced cases are best culled. Medication is temporarily effective.

Warbles--Irritated, raised area under the skin, usually back or flanks. Active larvae can be felt under skin, area usually moist.

Infestation of skin by larval stages of the bot fly (Cuterebra cuniculi)

Drop Chloroform on larvae and remove with forceps. Apply mild antiseptic to wound. Specific fly not found widely throughout United States.

Lymphadenitis--Multiple abscesses or lesions under the skin or in lymph glands. Loss of appetite and weight. May become generalized bloodstream infection.

Pus-forming Bacteria (Staphylococcus aureus.)

Individual animals may be treated with Tr. 6. Disinfect nest boxes. Destroy severely affected animals.

## MUCOUS MEMBRANES:

Urine-Hutch Burn--Inflammation of external sex organs and anus. Area may form crusts and bleed and, if severely infected, pus will be produced.

Bacterial infection of the membranes.

Keep hutch floors clean and dry. Pay particular attention to corners where animals urinate. Daily applications of lanolin may be of benefit.



## DISEASE AND SYMPTOMS

## CAUSE

## TREATMENT AND CONTROL

### Spirochetosis or Vent Disease--

Similar lesions as produced by urine or hutch burn. Raw lesions or scabs appear on sex organs; transmitted by mating.

Spirochete, (Treponema cuniculi.)

Treat animals with Tr. 8. Do not breed until lesions heal. If only a few animals are infected, it is easier to cull than treat. Do not loan bucks.

### Conjunctivitis or Weepy Eye--

Inflammation of the eyelids; discharge may be thin and watery or thick and purulent. Fur around the eye may become wet and matted.

Bacterial infection of the eyelids; also may be due to irritation from smoke, dust, sprays, or fumes.

Early cases may be cleared up with eye ointments, argyrol, yellow oxide of mercury, or antibiotic. Tr. 7 is effective in mixed infections. Protect animals from airborne irritants.

### Infected Nose--

Inflammation or swelling with cracking and chapping of the nose and lips. Sometimes brown scabs mat up to considerable thickness on the nose.

Bacterial infection of the nose and lips, similar to hutch or urine burn.

Remove scabs from nose and lips and treat with Tr. 8. Clean up cases of urine burn, and keep hutch floors clean.

## MILK GLANDS:

### Caked Breasts--

Breasts become firm and congested, later hard knots form at sides of nipples. Knots may break open showing dried milk.

Milk not drawn from glands as fast as formed, because of too few young, or young not nursing sufficiently. Usually a management problem with high milk producing does.

Do not wean young abruptly; if litter is lost, rebreed doe and protect doe from disturbances so young can nurse properly. Correct faulty nest boxes that injure breasts.

### Mastitis or Blue Breasts--

Breasts become feverish and pink, nipples red and dark. Temperature above normal, appetite poor, breasts turn black and purplish.

Bacterial infection of the breasts (Staphylococcus or Streptococcus)

If early case, treat with Tr. 8, disinfect hutch and reduce feed concentrates. If late case, destroy. NEVER transfer young from infected to another doe.

## DISEASE AND SYMPTOMS

## CAUSE

## TREATMENT AND CONTROL

### RESPIRATORY SYSTEM:

Snuffles or Cold--Sneezing, rubbing nose, nasal discharge may be thick or thin. Mats fur on inside front feet. May develop into pneumonia, usually chronic type of infection.

Bacterial infection of the nasal sinuses (Pasteurella multocida and/or Bordetella bronchiseptica.)

Individual animals may be treated with Tr. 7; tends to reoccur. Tr. 9 will reduce transmission to young. Save replacement stock from clean animals and cull cases of snuffles from herd.

Pneumonia--Labored breathing with nose held high, bluish color to eyes and ears. Lungs show congestion, red, mottled, moist, may be filled with pus. Often secondary to enteritis.

Bacterial infection of the lungs. Organisms involved may be Pasteurella multocida, Bordetella bronchiseptica, and Staphylococcus and Streptococcus sp.

If started early, Tr. 7 is effective. For control in herd, Tr. 9 is effective. Eliminate stress factors, ear mange, sore hocks, abscesses on body as predisposing factors for pneumonia.

Heat Prostration--Rapid respiration, prostration, blood tinged fluid from nose and mouth. Does that are due to kindle are most susceptible.

Extreme outside temperature. Degree varies with location and humidity.

Reduce temperature with water sprays, foggers. Place wet burlap in hutch on wet animal to help reduce body temperature.

### DIGESTIVE SYSTEM:

Malocclusion--Incisors grow long so mouth cannot close properly. Uppers curl back, lowers protrude. Animals cannot eat, prone to pneumonia.

Some types are inheritable, others are result of injury.

DO NOT save breeding stock from parent showing long teeth. Trim teeth on fryers to get animals to market.

## DISEASE AND SYMPTOMS

Coccidiosis, Liver--White circular spots on and through enlarged liver. Bile appears yellow in color and bladder may show sediment of oocysts. Usually cannot detect in live animals, not fatal.

Coccidiosis, Intestinal--Mild cases, no symptoms; moderate cases, diarrhea and no weight gain. Severe cases have pot belly, diarrhea with mucus, and pneumonia is often secondary.

Enteritis, Bloat, or Scours--Loss of appetite, little activity, eyes dull and squinted, fur rough, and animal may appear bloated. Diarrhea or mucus in droppings; animal may grind teeth. Stomach contents fluid, intestinal contents fluid, gaseous, or filled with mucus.

Fur Block--Animals reduce feed intake or stop eating completely, fur becomes rough and weight is lost. Stomach filled with undigested fur, blocking passage to intestinal tract. Pneumonia may become secondary.

Tapeworm Larvae--White streaks in liver or small white cysts attached to membrane on stomach or intestines. Usually cannot detect in live animals.

## CAUSE

Parasitic infection of the liver and bile ducts caused by the liver coccidium (Eimeria stiedae.)

Parasitic infection of the intestinal tract caused by coccidia. (Eimeria perforans, E. magna, E. media, E. irrisidua.)

Unknown - never has been shown to be infectious or transmitted to other animals.

Lack of sufficient fiber, bulk or roughage in the diet. Junior or developing does most susceptible.

Larval---stage of the dog tapeworm (Taenia pisiformis) or of the cat tapeworm (T. taeniaeformis)

## TREATMENT AND CONTROL

Keep floors clean, dry, remove droppings frequently. Prevent fecal contamination of feed and water. Effective control by use of Tr. 9.

Keep floor clean, dry, remove droppings frequently. Prevent fecal contamination of feed and water. Tr. 9 combined with sanitation will greatly reduce numbers of parasites and animals infected.

Tr. 10 in feed has been of benefit in some cases. For drinking water, use Tr. 11 for treatment of individual cases, too costly for herd control.

Increase fiber or roughage in the ration. Feed dry alfalfa or timothy hay.

No treatment, keep dogs and cats away from feed, water and nest box material. Eggs of tapeworm occur in droppings of dogs and cats.



#### DISEASE AND SYMPTOMS

#### CAUSE

#### TREATMENT AND CONTROL

Pinworms--No specific symptoms in live animals. White threadlike worms found in cecum and large intestine, causes slight local irritation.

Pinworms (Passalurus ambiguus.)

None; infection not considered one of economic importance.

#### MISCELLANEOUS:

Metritis or White Discharge--White, sticky discharge from female organs, often confused with sediment in urine. Enlarged uterus detected on palpation. One or both uteri filled with white, purulent material.

Infection of the uterus by a variety of bacteria, nonspecific.

Dispose of infected animal and disinfect hutch. Infected area difficult to medicate. When both uteri are infected, animal is sterile.

Myxomatosis--Inflammation and swelling of the eyes, ears, nose, and genitals. High fever, loss of appetite, ears may droop from weight of swelling. Usually fatal, mature animals most affected.

Infection caused by a virus (Molitor myxomae.)

None, antibiotics not effective. Reduce mosquito population by spraying, draining stagnant water, and screening. Promptly dispose of infected animals. Infection limited to West Coast, Mexico, South America.

Papilloma--Wrinkled, horny growths, usually on ears, may form "stag horn" type of growth. Not fatal, cannot be transmitted to other domestic rabbits but can be transmitted to wild rabbits.

Infection caused by a virus (Molitor sylvilagi.)

None, not fatal, self limiting. Usually an infection of the wild rabbit, transmitted to the domestic by the bite of insects.

Milkweed Poisoning--Paralysis of the neck muscles and lack of coordination. Head droops between front legs, and animal cannot eat or drink.

Paralysis caused by eating leaves or stems of the wooly-pod milkweed (Asclepias eriocarpa.)

Force feed and water into animal. Check wheat or oat hay for greenish-yellow stems and leaves of milkweed, found only in Pacific Southwest. Use hay only if free of this weed.



## DISEASE AND SYMPTOMS

Pasteurellosis--May be an acute or chronic infection. Nasal discharge, watery eyes, weight loss, or mortality without symptoms. Inflammation and consolidation of lungs, inflammation of bronchi and nasal sinuses.

Pseudotuberculosis--Chronic infection, weight loss, weakness, and progressive emaciation. Small abscesses found in liver, kidneys, spleen, lungs, or intestines.

Listeriosis--Loss of appetite and emaciation, generally in young animals. Minute white abscesses in liver, spleen, and reproductive organs. May involve central nervous system.

Hydrocephalus--Found in young only; top of skull raised, resembles large welt, firm to touch. Ventricles of brain enlarged, filled with excess fluid.

Paralyzed Hind Quarters--Found in mature does, hind legs drag, cannot stand or support weight of pelvis. Urinary bladder fills but does not empty.

Wry Neck--Head twisted to one side, animals roll over, cannot maintain equilibrium.

## CAUSE

Bacterial infection(Pasteurella multocida.)

Bacterial infection (Pasteurella pseudotuberculosis.)

Bacterial infection (Listeria monocytogenes.)

Nutritional deficiency, lack of sufficient vitamin A in does diet.

Injury, resulting in broken back, displaced disc, damage to spinal cord or nerves.

Infection of the organs of balance in the inner ear--may be bacterial or parasitic.

## TREATMENT AND CONTROL

Individual animals may be treated with Tr. 7, for herd control use Tr. 9. Save replacement stock from clean animals and cull out chronically infected animals. Use good sanitary measures to reduce transmission to new animals.

Destroy hopelessly sick animals, disinfect hutches, and control by Tr. 10.

Early treatment with Tr. 11 is effective, advanced cases should be destroyed. Disinfect hutches.

Insure adequate vitamin A in ration. Damage is done during pregnancy. Symptoms appear in young about 10 to 20 days old.

Protect animals from disturbing factors; predators, night prowlers, and visitors or noises that startle animals, especially pregnant does.

None, eliminate ear canker from herd. Some cases result from nest box injuries.

## TREATMENT AND MEDICATION 4/

### Treatment (Tr.)

1. Swab ear thoroughly with mixture of: 1 part Iodoform, 10 parts ether, 25 parts vegetable oil. Repeat in 6 to 10 days.
2. Swab ear thoroughly with 25 to 30 percent emulsion of Benzol Benzoate.
3. Dust with 10 percent DDT in talc.
4. Griseofulvin given orally at the rate of 10 milligrams per pound body weight for 14 days. Combine this treatment with dusting nest boxes with industrial fungicidal sulfur.
5. Apply a brand of hexetidine, to infected area for 7 to 14 days. Combine with sulfur dusting as in Tr. 4. Formulations containing suitable concentrations of hexetidine are available commercially.
6. Combination of 400,000 units of Penicillin combined with 1/2 gram Streptomycin to each 2 milliliters. Give orally approximately 1/2 ml. each day for 3 to 5 days.
7. Combination of 400,000 units of Penicillin combined with 1/2 g. Streptomycin to each 2 ml. Give intramuscularly 1 ml. for fryer size, 2 ml. for mature. Repeat on 3<sup>rd</sup> day. For eye infections drop directly into eye.
8. Inject intramuscularly 100,000 unit of Penicillin. For scabby nose continue treatment for 3 days. For mastitis give twice each day for 3 to 5 days.
9. Add feed grade Sulfaquinoxaline so that level will be 0.025 percent feed 3 to 4 weeks. Add water soluble Sulfaquinoxaline so that level will be 0.025 percent feed 2 to 3 weeks.
10. Add 50 grams furazoladine per ton of feed to give a final concentration of 0.0055 percent. May be fed intermittently or continuously.
11. Water soluble chlortetracycline or oxytetracycline at a level of 1 pound to 100 to 150 gallons of water.

---

4/ The mention of trade products does not imply that they are recommended or endorsed by the Department of Agriculture over similar products of other companies not mentioned.